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**TRANSMITTAL
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TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>		Application Number	10/748,354
		Filing Date	12/30/2003
		First Named Inventor	MOSS, Richard L.
		Art Unit	N/A
		Examiner Name	Unknown
		Total Number of Pages in This Submission	554

ENCLOSURES *(Check all that apply)*

<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please Identify below): Letter regarding IDS Return Receipt Postcard 52 References
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name			
Signature			
Printed name	Charles L. Leeck		
Date	10-21-04	Reg. No.	50,343

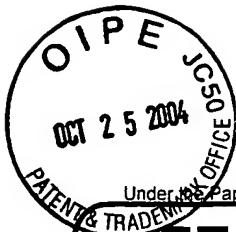
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This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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FEE TRANSMITTAL for FY 2005

Effective 10/01/2004. Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 0.00)

Complete if Known	
Application Number	10/748,354
Filing Date	12/30/2003
First Named Inventor	MOSS, Richard L.
Examiner Name	Unknown
Art Unit	N/A
Attorney Docket No.	054030-0045

METHOD OF PAYMENT (check all that apply)

 Check Credit card Money Order Other None
 Deposit Account:Deposit Account Number
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07-1509

Godfrey & Kahn, S.C.

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity	Small Entity	Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1001 790	2001 395	Utility filing fee			
1002 350	2002 175	Design filing fee			
1003 550	2003 275	Plant filing fee			
1004 790	2004 395	Reissue filing fee			
1005 160	2005 80	Provisional filing fee			
SUBTOTAL (1) (\$)					

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Independent Claims	Multiple Dependent	Extra Claims	Fee from below	Fee Paid
			-20** =	X	=
			- 3** =	X	=

Large Entity	Small Entity	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 88	2201 44	Independent claims in excess of 3
1203 300	2203 150	Multiple dependent claim, if not paid
1204 88	2204 44	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent
SUBTOTAL (2) (\$)		

**or number previously paid, if greater; For Reissues, see above

3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 430	2252 215	Extension for reply within second month	
1253 980	2253 490	Extension for reply within third month	
1254 1,530	2254 765	Extension for reply within fourth month	
1255 2,080	2255 1,040	Extension for reply within fifth month	
1401 340	2401 170	Notice of Appeal	
1402 340	2402 170	Filing a brief in support of an appeal	
1403 300	2403 150	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,370	2453 685	Petition to revive - unintentional	
1501 1,370	2501 685	Utility issue fee (or reissue)	
1502 490	2502 245	Design issue fee	
1503 660	2503 330	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
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1801 790	2801 395	Request for Continued Examination (RCE)	
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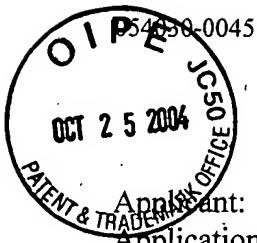
SUBTOTAL (3) (\$)

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Name (Print/Type)	Charles L. Leeck	Registration No. (Attorney/Agent)	50,343	Telephone	414-273-3500
Signature				Date	10-26-04

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Richard L. Moss, et al.
 Application No.: 10/748,354
 For: TRANSGENIC MODEL FOR MYOCARDIAL FUNCTION
 Filed: December 30, 2003
 Group Art Unit: N/A
 Examiner: Unknown
 Attorney Docket No.: 054030-0045

MAIL STOP AMENDMENT Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	<p style="text-align: center;"><u>CERTIFICATE OF MAILING UNDER 37 CFR 1.8</u></p> <p>I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on <u>10/21/2004</u></p> <hr/> <p style="text-align: center;">Ruth Ellen Genac (Typed or printed name of person mailing paper or fee)</p> <hr/> <p style="text-align: center;"><i>Ruth Ellen Genac</i> (Signature of person mailing paper or fee)</p>
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INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, the Applicant submits the references listed below for consideration.

Non-Patent References:

BAUER, C.B., Holden, H.M., Thoden, J.B., Smith, R., and Rayment, I., (2000). X-ray structures of the Apo and MgATP-bound states of Dictyostelium discoideum myosin motor domain. *J. Biol. Chem.* 275, 38494-38499

BERNSTEIN, S.I., and Milligan, R.A. (1997). Fine tuning a molecular motor: The location of alternative domains in the Drosophila myosin head. *J. Mol. Biol.* 271, 1-6

DOMINGUEZ, R., Freyzon, Y., Trybus, K.M., and Cohen, C. (1998). Crystal structure of a vertebrate smooth muscle myosin motor domain and its complex with the essential light chain: visualization of the pre-power stroke state. *Cell* 94, 559-571

FISHER, A.J., Smith, C.A., Thoden, J.B., Smith, R., Sutoh, K., Holden, H.M. and Rayment, I. (1995). X-ray structures of the myosin motor domain of Dictyostelium discoideum complexed with MgADP•BeFx and MgADP•AlF4-. *Biochemistry* 34, 8960-8972

GEEVES, M.A., and Holmes, K.C. (1999). Structural mechanism of muscle contraction. *Ann. Rev. Biochem.* 68, 687-728

GULICK, A.M. and Rayment, I. (1997). Structural studies on myosin II: communication between distant protein domains. *Bioassays* 19, 561-569

HOUDUSSE, A. and Cohen, C. (1996). Structure of the regulatory domain of scallop myosin at 2 Å resolution: implications for regulation. *Structure* 4, 21-32

HOUDUSSE, A., Kalabokis, V.N., Himmel, D., Szent-Gyorgyi, A.G. and Cohen, C. (1999). Atomic structure of Scallop Myosin Subfragemnt S1 Complexed with MgADP: A Novel Conformation of the Myosin Head. *Cell* 97, 459-470

KAMBARA, T., Rhodes, T.E., Ikebe, R., Yamashita, M., White, H.D., and Ikebe, M. (1999). Functional significance of the conserved residues in the flexible hinge region of the myosin motor domain. *J. Biol. Chem.* 274, 16400-16406

JOHNSON, K.A. and Taylor, E.W. (1978). The intermediate states of subfragemnt 1 and acto-subfragment 1 ATPase- a reevaluation of the mechanism. *Biochemistry* 17, 3432-3442

RAYMENT, I., Rypniewski, W.R., Schmidt-Base, K., Smith, R., Tomchick, D.R., Benning, M.M., Winkelmann, D.A., Wesenberg, G., and Holden, H.M. (1993). Three-dimensional structure of myosin sub-fragment-1: a molecular motor. *Science* 261, 50-58

ROVNER, A.S., Freyzon, Y., and Trybus, K.M. (1997). An insert in the motor domain determines the functional properties of expressed smooth muscle myosin isoforms. *J. Muscle Res. Cell Motil.* 18, 103-110

SANT'ANA PEREIRA, J.A.A., Pavlov, D., Nili, M., Greaser, M., Homsher, E. and Moss, R.L. (2001). Kinetic differences in myosins with identical loop 1 sequences. *J. Biol. Chem.* 276, 4409-4415

STRANG, K., Sweitzer, N.K., Greaser, M.L., and Moss, R.L. (1994). *Circ. Res.* 74, 542-549

SWEENEY, H.L., Rosenfeld, S.S., Brown, F., Faust, L., Smith, J., Xing, J., Stein, L.A., and Sellers, J. (1998). Kinetic tuning of myosin via a flexible loop adjacent to the nucleotide binding pocket. *J. Biol. Chem.* 273, 6262-6270

SCHIAFFINO, S. & Reggiani, C. (1996). *Physiol. Rev.* 76, 371-423

SANT'ANA PEREIRA, J.A.A., Wessels, A., Nijtmans, L., Moorman, A. & Sargeant, A.J. (1995). *J. Mus. Res. Cell Motil.* 16, 21-34

ALPERT, N.R. and L.A. Mulieri (1981). Heat, mechanics and myosin ATPase in normal and hypertrophied heart muscle. *Fed Proc* 41:192-198

ANDERSON, P.A.W., N.N. Malouf, A.E. Oakeley, E.D. Pagani and P.D. Allen (1991). Troponin T isoform expression in humans. A comparison among normal and failing adult heart, fetal heart, and adult and fetal skeletal muscle. *Circ Res* 69:1226-1233

BERMAN, M.R., C.C. Lord and D.W. Maughan (1988). Force transient time course in heart muscle with high and low V1 V3 myosin isoenzyme ratio. *J Mol Cell Cardiol* 20:679-687

BONNE, G., L. Carrier, P. Richard, B. Hainque and K. Schwartz (1998). Familial hypertrophic cardiomyopathy: from mutations to functional defects. *Circ Res* 83:580-593

BOTTINELLI, R., R. Betto, S. Schiaffino and C. Reggiani (1994). Unloaded shortening velocity and myosin heavy chain and alkali light chain isoform composition in rat skeletal muscle fibres. *J Physiol* 481:663-675

BUCK, S.H., P.J. Konyn, J. Palermo, J. Robbins and R.L. Moss (1999). Altered kinetics of contraction of mouse atrial myocytes expressing ventricular myosin regulatory light chain. *Am J Physiol* 276:H1167-H1171

CHEN, J., S.W. Kubalak, M. Susumu, K.D. Becker, R. Hickey, J. Ross Jr. and K.R. Chien (1998). Unique requirement of myosin light chain-2v in heart function and morphogenesis. *J Biol Chem* 273:1252-1256

CHIZZONITE, R.A., A.W. Everett, W.A. Clark, S. Jakovcic, M. Rabinowitz, and R. Zak (1982). Isolation and characterization of two molecular variants of myosin heavy chain from rabbit ventricle. *J Biol Chem* 257:2056-65

COVIELLO, D.A., R. Bottinelli, A. Trojani, E. Panucci, M.R. Iascone, R. Bertorelli, P. Spinto, C. Autore, A. Biagini, C., Reggiani and F. Ajmar (1997). Molecular and functional analysis of mutant sarcomeric gene responsible for familial hypertrophic cardiomyopathy. *Am J Human Genet* 61:A329

deTOMBE, P.P. (1998). Altered contractile function in heart failure. *Cardiovasc Res* 37:367-380

DIFFEE, G.M., J.R. Patel, F.C. Reinach, M.L. Greaser and R.L. Moss (1996). Altered kinetics of contraction in skeletal muscle fibers containing a mutant myosin regulatory light chain with reduced divalent cation binding. *Biophys J* 71:341-350

FENTZKE, R.C., S.H. Buck, J.R. Patel, H. Lin, R.J. Solaro, R.L. Moss, and J.M. Leiden (1999). Impaired cardiomyocyte relaxation and diastolic function in transgenic mice expressing slow skeletal troponin I in the heart. *J Physiol* 517:143-157

- FITZSIMONS, D.P., J.R. Patel and R.L. Moss (1998). Role of myosin heavy chain composition on kinetics of force development and relaxation in rat myocardium. *J Physiol* 513:171-183
- GEISTERFER-LOWRANCE, A.A.T., M. Christe, D.A. Conner, J.S. Ingwall, F.J. Schoen, C.E. Seidman and J.G. Seidman (1996). A mouse model of familial hypertrophic cardiomyopathy. *Science* 272:731-734
- GULICK, J., T.E. Hewett, R. Klevitsky, S.H. Buck, R.L. Moss, and J. Robbins (1997). Transgenic remodeling of the regulatory myosin light chains in mammalian heart. *Circ Res* 80:655-664
- HOMSHER, E., D.M. Lee, C. Morris, D. Pavlov and L.S. Tobacman (2000). Regulation of force and unloaded sliding speed in single thin filaments: effects of regulatory proteins and calcium. *J Physiol* 524:233-243
- HUANG, X.P., Y.Q. Pi, K.J. Lee, A.S. Henkel, R.G. Gregg, P.A. Powers and J.W. Walker (1999). Cardiac troponin I gene knock-out: A mouse model of myocardial troponin I deficiency. *Circ Res* 84:1-8
- JONES, W.K., I.L. Grupp, T. Doetschman, G. Grupp, H. Osinska, T.E. Hewett, G. Boivin, J. Gulick, W.A. Ng and J. Robbins (1996). Ablation of the murine α myosin heavy chain gene leads to dosage effects and functional deficits in the heart. *J Clin Invest* 98:1906-1917
- KELLEY, C., M. Takahashi, J.H. Yu and R. Adelstein (1993). An insert of seven amino acids confers functional differences between smooth muscle myosins from the intestines and vasculature. *J Biol Chem* 268:12848-12854
- LOWEY, S., G.S. Waller and K.M. Trybus (1993). Skeletal muscle myosin light chains are essential for physiological speeds of shortening. *Nature* 365:454-456
- LYONS, G.E., S. Schiaffino, D. Sasoon, P. Barton and M. Buckingham (1990). Developmental regulation of myosin gene expression in mouse cardiac muscle. *J Cell Biol* 111:2427-2436
- McDONALD, K.S., M.R. Wolff and R.L. Moss (1998). Force-velocity and power-load curves in rat skinned cardiac myocytes. *J Physiol* 511:519-531
- MERCADIER, J.J., A.M. Lompre, C. Wisnewsky, J.L. Samuel, J. Bercovici, B. Swynghedauw and K Schwartz (1981). Myosin isoenzymic changes in several models of rat cardiac hypertrophy. *Circ Res* 49:525-532
- MIYATA, S., W. Minobe, M.R. Bristow and L.A. Leinwand (2000). Myosin heavy chain isoform expression in the failing and nonfailing human heart. *Circ Res* 86:386-390
- MORKIN, E. (1993). Regulation of myosin heavy chain genes in the heart. *Circulation* 87:1451-1460

NG, W.A., I.L. Grupp, A. Subramaniam and J Robbins (1991). Cardiac myosin heavy chain mRNA expression and myocardial function in the mouse heart. *Circ Res* 69:1742-1750

PAWLOSKI-DAHM, C.M., G. Song, D.L. Kirkpatrick, J. Palermo, J. Gulick, G.W. Dorn, J. Robbins and R.A. Walsh (1998). Effects of total replacement of atrial myosin light chain-2 with the ventricular isoform in atrial myocytes of transgenic mice. *Circulation* 97:1508-1513

SANT'ANA PEREIRA, J.A.A., S. Ennion, A.J. Sargeant, A.F.M. Moorman and G. Goldspink (1997). Comparison of the molecular, antigenic and ATPase determinants of fast myosin heavy chains in rat and human: a single fibre study. *Eur J Physiol* 435:151-163

SIEMANKOWSKI, R.F., M.O. Wiseman and H.D. White. (1985). ADP dissociation from acto-S1 is sufficiently slow to limit unloaded shortening velocity in muscle. *J Biol Chem* 82:658-662

SWEENEY, H.L., M.J. Kushmerick, K. Mabuchi, J. Gergely and F.A. Sreter (1986). Velocity of shortening and myosin isoenzymes in two types of rabbit fast-twitch muscles. *Am J Physiol* 251:C431-C434

SWEENEY, H.L., M.J. Kushmerick, K. Mabuchi, F.A. Sreter and J. Gergely (1988). Myosin alkali light chain and heavy chain variations correlate with altered shortening velocity of isolated skeletal muscle fibers. *J Biol Chem* 263: 9034-9039

SWEENEY, H.L., S.S. Rosenfeld, F. Brown, L. Faust, J. Smith, J. Xing, L.A. Stein and J.R. Sellers (1998). Kinetic tuning of myosin via a flexible loop adjacent to the nucleotide binding pocket. *J Biol Chem* 273:6262-70

VanBUREN, P., D.E. Harris, N.R. Alpert and D.M. Warshaw (1995). Cardiac V1 and V3 myosins differ in their hydrolytic and mechanical activities in vitro. *Circ Res* 77:439-444

VanBUREN, P., G.S. Waller, D.E. Harris, K.M. Trybus, D.M. Warshaw and S. Lowey (1994). The essential light chain is required for full force production by skeletal muscle myosin. *Proc Natl Acad Sci* 91:12403-12407

WOLSKA, B., R. Keller, C. Evans, K. Palmiter, R. Phillips, M. Muthuchamy, J. Oehlenschlager, D. Wieczorek, P., deTombe and R.J. Solaro (1999). Correlation between myofilament response to Ca²⁺ and altered dynamics of contraction and relaxation in transgenic cardiac cells that express β-tropomyosin. *Circ Res* 84:745-51

Respectfully Submitted,

GODFREY & KAHN, S.C.

Dated: 10-21-04

By: CLL

Charles L. Leeck
Registration No. 50,343

Attorney of Record for the Applicant
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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

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of

6

Complete if Known

Application Number	10/748,354
Filing Date	12/30/2003
First Named Inventor	MOSS, Richard L.
Art Unit	N/A
Examiner Name	Unknown
Attorney Docket Number	054030-0045

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		BAUER, C.B. et al. 2000. J. Biol. Chem. 275, 38494-38499	
		BERNSTEIN, S.I. et al. 1997. J. Mol. Biol. 271, 1-6	
		DOMINGUEZ, R. et al. 1998. Cell 94, 559-571	
		FISHER, A.J. et al. 1995. Biochemistry 34, 8960-8972	
		GEEVES, M.A. et al. 1999. Ann. Rev. Biochem. 68, 687-728	
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		HOUDUSSE, A. et al. 1999. Cell 97, 459-470	
		KAMBARA, T. et al. 1999. J. Biol. Chem. 274, 16400-16406	
		JOHNSON, K.A. et al. 1978. Biochemistry 17, 3432-3442	

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Substitute for form 1449/PTO				<i>Complete if Known</i>	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Application Number	10/748,354
Sheet	2	of	6	Filing Date	12/30/2003
				First Named Inventor	MOSS, Richard L.
				Art Unit	N/A
				Examiner Name	Unknown
				Attorney Docket Number	054030-0045

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T ²
		RAYMENT, I. et al. 1993. Science 261, 50-58		
		ROVNER, A.S. et al. 1997. J. Muscle Res. Cell Motil. 18, 103-110		
		SANT'ANA PEREIRA, J.A.A. et al. 2001. J. Biol. Chem. 276, 4409-4415		
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		ALPERT, N.R. et al. 1981. Fed Proc 41:192-198		
		ANDERSON, P.A.W. et al. 1991. Circ Res 69:1226-1233		
		BERMAN, M.R. et al. 1988. J Mol Cell Cardiol 20:679-687		

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Substitute for form 1449/PTO				Complete if Known	
				Application Number	10/748,354
				Filing Date	12/30/2003
				First Named Inventor	MOSS, Richard L.
				Art Unit	N/A
				Examiner Name	Unknown
Sheet	3	of	6	Attorney Docket Number	054030-0045

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		BONNE, G. et al. 1998. Circ Res 83:580-593	
		BOTTINELLI, R. et al. 1994. J Physiol 481:663-675	
		BUCK, S.H. et al. 1999. Am J Physiol 276:H1167-H1171	
		CHEN, J. et al. 1998. J Biol Chem 273:1252-1256	
		CHIZZONITE, R.A. et al. 1982. J Biol Chem 257:2056-2065	
		COVIELLO, D.A. et al. 1997. Am J Human Genet 61:A329	
		deTOMBE, P.P. 1998. Cardiovasc Res 37:367-380	
		DIFFEE, G.M. et al. 1996. Biophys J 71:341-350	
		FENTZKE, R.C. et al. 1999. J Physiol 517:143-157	
		FITZSIMONS, D.P. et al. 1998. J Physiol 513:171-183	

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		GEISTERFER-LOWRANCE, A.A.T. et al. 1996. Science 272:731-734		
		GULICK, J. et al. 1997. Circ Res 80:655-664		
		HOMSHER, E. ET AL. 2000. J Physiol 524:233-243		
		HUANG, X.P. et al. 1999. Circ Res 84:1-8		
		JONES, W.K. et al. 1996. J Clin Invest 98:1906-1917		
		KELLEY, C. et al. 1993. J Biol Chem 268:12848-12854		
		LOWEY, S. et al. 1993. Nature 365:454-456		
		LYONS, G.E. et al. 1990. J Cell Biol 111:2427-2436		
		McDONALD, K.S. et al. 1998. J Physiol 511:519-531		
		MERCADIER, J.J. et al. 1981. Circ Res 49:525-532		

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		MIYATA, S. et al. 2000. Circ Res 86:386-390	
		MORKIN, E. 1993. Circulation 87:1451-1460	
		NG, W.A. et al. 1991. Circ Res 69:1742-1750	
		PAWLOSKI-DAHM, C.M. et al. 1998. Circulation 97:1508-1513	
		SANT'ANA PEREIRA, J.A.A. et al. 1997. Eur J Physiol 435:151-163	
		SIEMANKOWSKI, R.F. et al. 1985. J Biol Chem 82:658-662	
		SWEENEY, H.L. et al. 1986. Am J Physiol 251:C431-C434	
		SWEENEY, H.L. et al. 1988. J Biol Chem 263:9034-9039	
		SWEENEY, H.L. et al. 1998. J Biol Chem 273:6262-6270	
		VanBUREN, P. et al. 1995. Circ Res 77:439-444	

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